

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

North American Plant Breeders

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT OF 1930, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

ALFALFA

'Voris A77'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 14th day of May in the year of our Lord one thousand nine hundred and eighty-one.

Attest:

Leonard E. Kay
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY NAPB 51		1b. VARIETY NAME Voris A77		FOR OFFICIAL USE ONLY PV NUMBER 8000035	
2. KIND NAME Alfalfa		3. GENUS AND SPECIES NAME Medicago Sativa		FILING DATE 12-27-79	TIME 3:30 P.M.
4. FAMILY NAME (BOTANICAL) Leguminaceae FABACEAE		5. DATE OF DETERMINATION December 1974		FEE RECEIVED \$ 500.00 \$ 250.00	DATE 12-27-79 4-10-81
6. NAME OF APPLICANT(S) North American Plant Breeders		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 5201 Johnson Drive P. O. Box 2955 Mission, Kansas 66205		8. TELEPHONE AREA CODE AND NUMBER 913-384-4980 4	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Connecticut		11. DATE OF INCORPORATION March 9, 1973	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Mr. Giles E. Dixon, Research Director North American Plant Breeders P. O. Box 2955, Mission, Kansas 66205 Dr. J. B. MOUTRAY NAPB R.R. 3, Ames, Iowa 50010					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☐ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☐ YES ☒ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☒ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? ² only
☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

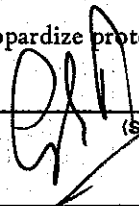
17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

12-19-79

(DATE)



(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

EXHIBIT A

Origin and Breeding History of the Variety

'Voris A-77'

Voris A77 is a 97 clone synthetic variety with parentage tracing approximately equally to Atlas, Olympic and Vanguard. Voris A77 was derived by submitting the above named varieties to screening for Phytophthora root rot resistance in the Ames, Iowa, field nursery.

Breeder seed was formed by interpollinating approximately 15,000 cuttings of the parent clones in isolation near Warden, Washington.

During seed multiplication no variants beyond the limits defined under Exhibit C have been found and multiplication procedure will ensure that seed being sold as 'Voris A77' will not be shifted in characteristics beyond presently acceptable limits for alfalfa varieties.

It is also confirmed that Voris A77 meets presently acceptable levels of uniformity for alfalfa varieties.

REVISED EXHIBIT B

NOVELTY STATEMENT

VORIS A77

'Voris A77' is most similar to the variety 'Vangard.'
'Voris A77' differs from 'Vangard' by having a low
level of resistance to Phytophthora root rot, while
'Vangard' has a susceptible reaction.

TABLE 1

Phytophthora root rot resistance of Voris A77 alfalfa as compared to Vanguard

Variety	Tested	By	Conducted At	% Res.Plants	A.S.I
Voris A77	1978	Univ. Minn.	St. Paul	16.5	4.01
Saranac Sus.				1.5	4.89
Agate Res.				44.4	2.80
LSD .05					.61

Variety	Tested	By	Conducted At	% Res.Plants	A.S.I
Vanguard	1975	Univ. Minn.	St. Paul	0.0	4.87
Saranac Suc.				0.0	5.26
Agate Res.				20.0	3.34
LSD .05					.49

OBJECTIVE DESCRIPTION OF VARIETY
Alfalfa (*Medicago sativa* L. complex)

NAME OF APPLICANT(S) North American Plant Breeders	VARIETY NAME OR TEMPORARY DESIGNATION Voris A77
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) P. O. Box 2955 Mission, KS 66205	FOR OFFICIAL USE ONLY PVPO NUMBER 8000035

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

NOTE: For single plant data a minimum of 100 plants is suggested

1. PRIMARY AREA OF ADAPTATION		INDICATE AREA WHERE TEST WAS CONDUCTED. FURTHER EXPLANATION CAN GO IN COMMENTS AT THE END OF THE FORM.
<input type="text" value="2"/>	1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST 5 = SOUTHWEST 6 = SOUTHERN PLAINS 7 = INTERMOUNTAIN	<input type="text" value="1"/> AREA TESTED 1 2 3 4 6
2. WINTER HARDINESS		
<input type="text" value="5"/>	1 = NON-HARDY (Mesa Sirsa) 3 = INTERMEDIATE NON-HARDY 5 = MODERATELY HARDY (Saranac) 7 = HARDY (Vernal) 9 = EXTREMELY HARDY (Norseman)	<input type="text" value="2"/> AREA TESTED
<input type="text" value="2"/>	SOURCE OF INFORMATION: 1 = ANTICIPATED 2 = MEASURED	
3. FALL GROWTH HABIT		
<input type="text" value="5"/>	1 = ERECT (Mesa Sirsa) 3 = SEMIERECT (DuPuits) 5 = INTERMEDIATE (Saranac) 7 = SEMIDECUMENT (Vernal) 9 = DECUMBENT (Norsement)	<input type="text" value="2"/> AREA TESTED
4. RECOVERY AFTER FIRST SPRING CUTTING		
<input type="text" value="3"/>	1 = VERY FAST (Mesa Sirsa) 3 = FAST (Saranac) 5 = INTERMEDIATE 7 = SLOW (Vernal) 9 = VERY SLOW (Norseman)	<input type="text" value="2"/> AREA TESTED
5. FLOWERING DATE (FIRST SPRING GROWTH)		
<input type="text" value="0"/> <input type="text" value="3"/>	DAYS EARLIER THAN DAYS LATER THAN	<input type="text" value="4"/> AREA TESTED 1 = MESA SIRSA 2 = LAHONTAN 3 = SARANAC 4 = VERNAL 5 = NORSEMAN
6. CROWN TYPE		
<input type="text" value="7"/>	1 = SPREADING ROOTS 3 = SPREADING RHIZOMES (Teton) 5 = BROAD (Vernal) 7 = INTERMEDIATE (Saranac) 9 = NARROW (Mesa Sirsa)	<input type="text" value="2"/> AREA TESTED
7. PLANT COLOR		
<input type="text" value="5"/>	3 = DARK GREEN (Weevichek) 5 = GREEN (Vernal) 7 = LIGHT GREEN (Ranger)	<input type="text" value="2"/> AREA TESTED
8. HAIRINESS		
<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	% PLANTS WITH PUBESCENT STEMS	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> % PLANTS WITH PUBESCENT PODS
9. POD SHAPE		
<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	% PLANTS WITH TIGHT COILS	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> % PLANTS WITH LOOSE COILS <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> % PLANTS WITH SICKLE PODS (Less than 1 coil)

10. ITEM LENGTH FREQUENCY DISTRIBUTION FOR SUBMITTED AND 5 STANDARD VARIETIES

VARIETY NAME	STEM LENGTH FREQUENCY DISTRIBUTION 2/											AVERAGE STEM LENGTH
	0-5 mm. %	6-10 mm. %	11-15 mm. %	16-20 mm. %	21-30 mm. %	31-40 mm. %	41-50 mm. %	51-60 mm. %	61-70 mm. %	71-80 mm. %	81+ mm. %	

11. FLOWER COLOR 3/ (DETERMINE COLOR ON FRESHLY OPENED FLOWERS)

0 9 5 % PURPLE 0 0 5 % VARIEGATED % YELLOW % CREAM % WHITE

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

DISEASE	CULTIVAR	% RESISTANT PLANTS	AVG. SEVERITY INDEX (ASI)	ASI	TEST, YEAR & LOCATION 4/
BACTERIAL WILT	(SUBMITTED)	36.2	45		1976 Univ. Minnesota St. Paul
	(RES. CK.) VERNAL	34.1	42		
	(SUS. CK.) NARRAGANSETT	0.0	00		
ANTHRACNOSE	(SUBMITTED)	61.6	54		1978 North Carolina State Raleigh
	(RES. CK.) ARC	73.8	65		
	(SUS. CK.) SARANAC	4.4	04		
COMMON LEAF SPOT	(SUBMITTED)				
	(RES. CK.) RAMSEY				
	(SUS. CK.) RANGER				
DOWNY MILDEW	(SUBMITTED)				
	(RES. CK.) SARANAC				
	(SUS. CK.) KANZA				
PHYTOPHTHORA ROOT ROT	(SUBMITTED)	16.5	16		1978 Univ. Minnesota St. Paul
	(RES. CK.) AGATE	44.4	43		
	(SUS. CK.) SARANAC	1.5	01		
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				

RES TRANSPOSED; CORRECT FIGURES
E AGATE: 2.80, SARANAC: 4.89

DOES PER LETTER OF
15 SEPT 80

1/ Preferred standards: Saranac, Vernal, Norseman, Lahontan, Mesa Sirs of incandescent filament light and twelve hours darkness at 5°C.

2/ From cotyledonary node to tip of stem 20 days after planting.

3/ For further clarification consult USDA Agricultural Handbook No. 424.

4/ Give: The institution in charge of test, (2) year, and (3) location of test. Describe test procedure if it differs from procedure suggested in ARS-NC-19, September 1974.

ith 20,000 lux of cool white florescent; 2,000 lux

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

DISEASE	CULTIVAR	% RESISTANT PLANTS	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				
INSECT	CULTIVAR	% SEEDLING SURVIVAL	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
PEA APHID	(SUBMITTED)				
	(RES. CK.) KANZA				
	(SUS. CK.) RANGER				
SPOTTED ALFALFA APHID	(SUBMITTED)				
	(RES. CK.) KANZA				
	(SUS. CK.) RANGER				
INSECT	CULTIVAR	% DEFOLIATION	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
ALFALFA WEEVIL	(SUBMITTED)				
	(RES. CK.) ARK				
	(SUS. CK.) VERNAL				
INSECT	CULTIVAR	% RESISTANT PLANTS	EMERGED ADULTS PER PLANT	EMERGED LSD .05	TEST, YEAR & LOCATION ^{4/}
ALFALFA SEED CHALCID	(SUBMITTED)				
	(RES. CK.) LAHONTAN				
	(SUS. CK.) SONORA				
INSECT	CULTIVAR	% RESISTANT PLANTS	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
POTATO LEAF-HOPPER	(SUBMITTED)	6.83			1977 NAPB Ames, Iowa
	(RES. CK.) Weevilchek	36.82			
	(SUS. CK.) Saranac	7.95			
Fusarium wilt	(SUBMITTED)	48.8			1978 Univ. Minn. St. Paul
	(RES. CK.) Moapa 69	87.1			
	(SUS. CK.) Mn. GN-1	2.4			
OTHER Fusarium Oxysporum					

^{4/} Give: The institution in charge of test, (2) year, and (3) location or test. Describe test procedure if it differs from procedure suggested in ARS NC-19, September 1974.

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

INSECT	CULTIVAR	% RESISTANT PLANTS	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				
NEMATODE	CULTIVAR	% RESISTANT PLANTS	INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
STEM NEMATODE	(SUBMITTED)				
	(RES. CK.) LAHONTAN				
	(SUS. CK.) RANGER				
NORTHERN ROOT KNOT NEMATODE	(SUBMITTED)				
	(RES. CK.) NEV. SYN. XX				
	(SUS. CK.) LAHONTAN				
SOUTHERN ROOT KNOT NEMATODE	(SUBMITTED)				
	(RES. CK.) MOAPA 69				
	(SUS. CK.) LAHONTAN				
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				

13. INDICATE A VARIETY THAT MOST CLOSELY RESEMBLES THE VARIETY SUBMITTED FOR THE FOLLOWING CHARACTERS:

CHARACTER	VARIETY	CHARACTER	VARIETY
AREA OF ADAPTATION	Vanguard	PLANT HEIGHT	Vanguard
RECOVERY AFTER CUTTING	Vanguard	WINTER HARDINESS	Vanguard

REFERENCES

Barnes, D.K., and C.H. Hanson, An Illustrated Summary of Genetic Traits in Tetraploid and Diploid Alfalfa, ARS Technical Bul. 1370.
 Barnes, D.K., et al, Standard Tests to Characterize Pest Resistance in Alfalfa Varieties. ARS-NC-19, September 1974.
 Nittler, L.W., G.W. McKee, and J.L. Newcomer, Principles and Methods of Testing Alfalfa Seed for Varietal Purity. New York Agricultural Experiment Station Bul. 807.
 USDA Agricultural Handbook No. 424.

COMMENTS

BILL OF SALE AND ASSIGNMENT

KNOW ALL MEN BY THESE PRESENTS that AGRIPRO BIOSCIENCES INC., a Delaware corporation (hereinafter referred to as "Seller"), pursuant to that certain Asset Purchase Agreement of even date herewith by and between Seller and AGR ACQUISITION CORPORATION, a Delaware corporation (hereinafter referred to as "Buyer") and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant, bargain, sell, assign, convey and deliver unto Buyer, all of Seller's right, title and interest in and to the plant varieties owned/registered by Seller and more particularly set forth on Exhibit A attached hereto for which PVP Certificates have been issued by or may be pending before the U. S. Department of Agriculture.

TO HAVE AND TO HOLD UNTO PURCHASER, its successors and assigns forever.

IN WITNESS WHEREOF, Seller has executed this Bill of Sale and Assignment as of the 30th day of June, 1994.

AGRIPRO BIOSCIENCES INC.

BY: W.A. Zama
Title: President

STATE OF KANSAS, COUNTY OF JOHNSON

Before me, the undersigned, a Notary Public of the State and County aforesaid, personally appeared W.A. ZAMA with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence) and who, upon oath, acknowledged himself to be the PRESIDENT of Agripro Biosciences Inc., the within named bargainer, a corporation, and that he as such PRESIDENT, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as PRESIDENT.

WITNESS my hand and Notarial Seal at office the day and year above written.

Alma M. Weaver
Notary Public

My Commission Expires:

June 22, 1998

ALMA M. WEAVER

NOTARY PUBLIC

STATE OF KANSAS

My Appt. Exp.

June 22, 1998

Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "AGR ACQUISITION CORPORATION", CHANGING ITS NAME FROM "AGR ACQUISITION CORPORATION" TO "AGRIPRO SEEDS, INC.", FILED IN THIS OFFICE ON THE THIRTIETH DAY OF JUNE, A.D. 1994, AT 4:30 O'CLOCK P.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



Edward J. Freel

SECRETARY OF STATE
AUTHENTICATION:

7169071

DATE:

07-01-94

2394087 8100

944121584

06/30/84 14:25

B913 384 0208

ABI SHAWNEE MSN

002/002

CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
AGR ACQUISITION CORPORATION

AGR Acquisition Corporation, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: that the Board of Directors of said corporation, by the unanimous written consent of its members filed with the minutes of the Board, adopted a resolution proposing and declaring advisable the following amendment to the Certificate of Incorporation of said corporation:

RESOLVED, that the Certificate of Incorporation of this corporation be amended by changing the Article thereof numbered "ARTICLE I" so that, as amended, said Article shall be and read as follows:

"ARTICLE I

Name

The name of the corporation (hereinafter called the 'Corporation') is Agripro Seeds, Inc."

SECOND: That in lieu of a meeting and vote of stockholders, the sole shareholder of the corporation has given unanimous written consent to said amendment in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendment was duly adopted in accordance with the applicable provisions of Sections 242 and 228 of the General Corporation Law of the State of Delaware.

FOURTH: That the capital of said corporation shall not be reduced under or by reason of said amendment.

IN WITNESS WHEREOF, said AGR Acquisition Corporation has caused this certificate to be signed by Gary T. Hancock, its President, and attested by Ann Steelman, its Secretary, this 30th day of June, 1994.

AGR ACQUISITION CORPORATION

BY: Gary T. Hancock
Gary T. Hancock, President

ATTEST:

BY: Ann Steelman
Ann Steelman, Secretary